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10/760,466	01/21/2004	Carl J. Ledbetter	003797.00717	1396

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EXAMINER	
LAO, LUN YI	
ART UNIT	**PAPER NUMBER**
2629	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/760,466	LEDBETTER ET AL.	
	Examiner	Art Unit	
	LUN-YI LAO	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :6/24/05, 11/1/05, 5/9/2006, 4/26/2005, 3/17/2004 and 1/21/2004.

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities: the recitation of "said rotatable member is laterally movable along said axis" should be changed to -- "said rotatable member is laterally movable along said **first** axis – since it is unknown which axis has been referred to. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deruginsky et al(6,555,768) in view of Naoyuki(JP 2000-200147).

As to claims 1-12, Deruginsky et al teach an input device for scrolling an image comprising a housing having at least one opening(see figure 4); a scroll wheel assembly provide within the housing(see figures 1, 4; column 2, lines 1-8; column 3, lines 58-63 and column 5, lines 36-40); the scroll wheel assembly(2) including a rotatable

member(2) that is rotatable about a first axis extending within the housing and privoatally movable about a second axis within the opening, the first axis and the second axis being perpendicular to each other(see figures see figures 1, 4; column 2, lines 1-8; column 3, lines 58-63; column 5, lines 36-68 and column 6, lines 1-27); a movement sensing system(40) configured to sense rotational movement of the rotatable member(2) about the first axis for scrolling the image in a first scrolling direction(vertical direction, up or down)(see figures 1-3; column 2, lines 1-8; column 3, lines 44-63; column 4, lines 23-68; column 5, lines 1-13 and lines 36-55; and column 6, lines 47-56); a sensor(8,9, see figure 3) for detecting an extension force based on the pivotal movement of said rotatable member(2) about the second axis for moving the image in a second direction(horizontal, left or right, pressed the roller member(2) to the arrow 11, the item on a display moving left, pressed the roller member(2) to the arrow 13), the item on a display moving right) perpendicular to the first scrolling direction(vertical, up or down); wherein the image(the item) is operable to move in the second direction(horizontal, left or right) responsive to the detected extension force(see figures 1-3; column 5, lines 60-68; column 6, lines 1-56; and column 8, lines 37-65).

Deruginsky et al teach when a user pressed the roller member(2) to the arrow 11, the item on a display moving left, when a user pressed the roller member(2) to the arrow 13, the item on a display moving right (see figures 1-3 and column 8, lines 56-65). Deruginsky et al fail to point out moving an image is scrolling an image.

Naoyuki teaches a method for scrolling image on a display and providing a horizontal scrolling of an image(210c, 210d) when the rotatable member(202 or 212) is

pivoted about a second axis(horizontal axis)(see figures 1, 2, 4-5 and paragraphs 8-14). It would have been obvious to have modified Deruginsky et al with the teaching of Naoyuki, so as to allow a user viewing more information in a horizontal direction on a display(see Deruginsky's figure 2-3 and column 8, lines 56-65).

As to claim 2, Deruginsky et al teach rotatable member is laterally movable along the axis(horizontal) within the opening(see figures 1-4; column 5, lines 60-68 and column 6, lines 1-27).

As to claim 3, Deruginsky et al teach the rotatable member including raised side edge and a concave recessed center section(see figure 1).

As to claim 4, Deruginsky et al teach the scroll wheel assembly having a shaft member (36, 2b) along the first axis(vertical axis) and the rotation member(2) being coupled to the shaft member(36, 2b); and the shaft member(2b, 36) being pivotally movable about the second axis(horizontal axis)(see figure 1, 3 and column 6, lines 47-65).

As to claim 5, Deruginsky et al teach the scroll wheel assembly include a support member configured for supporting the shaft(36, 2b) and the support being pivotally movable about the second axis(horizontal axis)(see figures 1, 3-4; column 6, lines 30-65;column 7, lines 38-49 and column 8, lines 9-41).

As to claim 6, Deruginsky et al teach a shaft supporting system for permitting shaft member(36, 2b) and the rotatable member(2) to float within the housing(see figures 1, 3 and 4).

As to claim 7, Deruginsky et al teach the shaft supporting system having a pair of arms for supporting a portion of the shaft(36, 2b) and a resilient member positioned between each the cradle and the housing for supporting a respective one of the cradles within the housing(see figures 1, 3-4; claims 11-13, 26; column 3, lines 10-22; column 7, lines 38-49 and column 8, lines 27-37).

As to claim 8, Deruginsky et al teach a scroll wheel assemblyhaving a bracket(see figures 1 and 4).

As to claims 9-12, Naoyuki teaches a scrolling input device for controlling the scrolling speed by sensing the pressure applied to the input device(see figures 1-6, 9-11; abstract and paragraphs 39-45). It would have been obvious to have modified Deruginsky et al with the teaching of Naoyuki, since to apply pressure on a scrolling device to control scrolling speed is more easy and precise than to use scrolling wheel rotation speed because controlling the wheel rotation speed is difficult to achieve by a finger manipulation.

As to claim 9, Deruginsky et al as modified teach a method for sensing a first tensile force and a second tensile force greater than the first tensile force(pressure sensing)(see Deruginsky's figure 1, 3 and Naoyuki's figures 1-6, 9-11; abstract and paragraphs 39-45

As to claims 10-12, Deruginsky et al as modified teach a method for scrolling an image(an item) in a horizontal direction when a user pressed the roller member(2) to the arrow 11 or 13(see figures 1-3 and column 8, lines 56-65).

3. Claim 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deruginsky et al(6,555,768) in view of Naoyuki(JP 2000-200147) and Takinami(6,016,110).

Claims 13-20, Deruginsky et al as modified fail to disclose a first speed will be changed to a second speed which is greater than the first speed if the period time is greater than a predetermined period of time.

Takinami teach a first scrolling speed(Vb) will be changed to a second speed(e.g. Vc or Vd) which is greater than the first speed(Vb) if the period time is greater than a predetermined period of time(see figure 2; column 1, lines 61-68 and column 2, lines 1-13). It would have been obvious to have modified Deruginsky et al as modified with the teaching of Takinami, so a user could be more fast to reach the information that he/she is looking for.

As to claims 13-14, 17 and 19, Deruginsky et al as modified teach an input device for scrolling an image on a display comprising a housing and a scroll wheel(2) being rotatable relative to the housing about an axis to causing the image in a first direction(vertical direction, up and down) and the scrolling wheel being pivotally displaceable relative to the housing cause scrolling in a second direction(horizontal direction, left and right)(see figures 1-4 column 5, lines 60-68; and column 8, lines 56-65).

As to claim 15, Naoyuki teaches the input device is a mouse(see figures 4-5).

As to claim 16, Naoyuki teaches computer input device is a keyboard(see figure 17 and paragraphs 69-70 of the machine translation).

As to claim 18, Deruginsky et al teach the rotatable member(2) is laterally movable long a shaft(36, 2b) extending within the opening(see figures 1, 3-4; column 6, lines 30-65;column 7, lines 38-49 and column 8, lines 9-41).

As to claim 20, Deruginsky et al as modified teach a support member assembly pivotable with the rotatable member(2), the supporting member assembly including laterally extending arms, wherein the sensing system is configured to contact opposing lateral sides of the support member when the rotatable member(12) is moved laterally(see figures 1, 3; column 5, lines 56-68; column 6, lines 1-65; column 8, lines 16-65).

4. Claims 1, 2 and 4-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pruchniak(6,075,518) in view of Naoyuki(JP 2000-200147).

As to claims 1, 2 and 4-12, Pruchniak et al teach an input device for scrolling an image comprising a housing having at least one opening(see figure 1); a scroll wheel(50) assembly provide within the housing(see figures 1-3, 5; column 3, lines 56-64; column 4, lines 49-57 and column 6, lines 15-25); the scroll wheel assembly including a rotatable member(50) that is rotatable about a first axis(54) extending within the housing and privoatally movable about a second axis within the opening, the first axis and the second axis being perpendicular to each other(see figures 1-3; column 2, lines 1-8; column 3, lines 58-63; column 5, lines 36-68 and column 6, lines 1-27); a movement sensing system(0, 62) configured to sense rotational movement of the rotatable member(50) about the first axis(54) for scrolling the image in a first scrolling direction(vertical direction, up or down)(see figures 1-3; column 4, lines 4-27 and lines

49-65; and column 5, lines 15-22); a sensor(34, 36) for detecting an extension force based on the pivotal movement of the rotatable member(50) about the second axis(see figures 1-3; column 2, lines 9-27; column 4, lines 49-65; and column 5, lines 15-25).

Pruchniak fails to scrolling image in a second scrolling direction perpendicular to the first scrolling direction when the rotatable member is tilted about the second axis.

Naoyuki teaches a method for scrolling image on a display and providing a horizontal scrolling of an image(210c, 210d) when the rotatable member(202 or 212) is pivoted about a second axis(horizontal axis)(see figures 1, 2, 4-5 and paragraphs 8-14). It would have been obvious to have modified Pruchniak with the teaching of Naoyuki, so as to allow a user viewing more information in a horizontal direction on a display(see Naoyuki's figures 2 and 4-5).

As to claim 2, Pruchniak teaches the rotatable member is laterally movable along the axis(horizontal) within the opening(see figure 1; column 4, lines 49-65 and column 5, lines 15-25).

As to claim 4, Pruchniak teaches the scroll wheel assembly having a shaft member along the first axis(54) and the rotation member(50) being coupled to the shaft member; and the shaft member being pivotally movable about the second axis(see figure 1; column 4, lines 49-65 and column 5, lines 15-25).

As to claim 5, Pruchniak teaches the scroll wheel assembly include a support member(e.g. 40, 42, 44, 20, 24, 30) configured for supporting the shaft(36, 2b) and the support being pivotally movable about the second axis(see figure 1; column 4, lines 49-65 and column 5, lines 15-25).

As to claim 6, Pruchniak teaches a shaft supporting system for permitting shaft member and the rotatable member(50) to float within the housing(see figures 1, 3 and column 3, lines 10-35).

As to claim 7, Pruchniak teaches the shaft supporting system having a pair of arms(20) for supporting a portion of the shaft and a resilient member(32) positioned between each the cradle and the housing for supporting a respective one of the cradles within the housing(see figure 1 and column 3, lines 10-35).

As to claim 8, Pruchniak teaches a scroll wheel assembly having a bracket(see figure 1).

As to claims 9-12, Naoyuki teaches a scrolling input device for controlling the scrolling speed by sensing the pressure applied to the input device(see figures 1-6, 9-11; abstract and paragraphs 39-45). It would have been obvious to have modified Pruchniak with the teaching of Naoyuki, since to apply pressure on a scrolling device to control scrolling speed is more easy and precise than to use scrolling wheel rotation speed because controlling the wheel rotation speed is difficult to achieve by a finger manipulation.

As to claim 9, Pruchniak as modified teach a method for sensing a first tensile force and a second tensile force greater than the first tensile force(34, 36)(see figure 1; column 4, lines 49-65 and column 5, lines 15-25).

As to claims 10-12, Pruchniak as modified teach a method for scrolling an image(a document) in a horizontal direction when the roller member(50) is tilted(see figure 1; column 4, lines 49-65 and column 5, lines 15-25).

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pruchniak in view of Naoyuki(JP 2000-200147) and Deruginsky et al(6,555,768).

Pruchniak as modified fail to disclose a rotatable member having raise side edges and a concave recessed center portion.

Deruginsky et al teach the rotatable member including raised side edge and a concave recessed center section(see figure 1). It would have been obvious to have modified Pruchniak with the teaching of Deruginsky et al, so it would be more easy for a user to rotate and tilt a wheel.

6. Claim 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pruchniak in view of Naoyuki(JP 2000-200147) and Takinami(6,016,110).

Claims 13-20, Pruchniak as modified fail to disclose a first speed will be changed to a second speed which is greater than the first speed if the period time is greater than a predetermined period of time.

Takinami teach a first scrolling speed(Vb) will be changed to a second speed(e.g. Vc or Vd) which is greater than the first speed(Vb) if the period time is greater than a predetermined period of time(see figure 2; column 1, lines 61-68 and column 2, lines 1-13). It would have been obvious to have modified Pruchniak as modified with the teaching of Takinami; so a user could be more fast to reach the information that he/she is looking for.

As to claims 13-14, 17 and 19, Pruchniak as modified teach an input device for scrolling an image on a display comprising a housing and a scroll wheel(2) being rotatable relative to the housing about an axis to causing the image in a first

direction(vertical direction, up and down) and the scrolling wheel being pivotally displaceable relative to the housing cause scrolling in a second direction(horizontal direction, left and right)(see Pruchniak's figure 1; column 4, lines 49-65; column 5, lines 15-25; and Naoyuki s figures 1, 2, 4-5 and paragraphs 8-14).).

As to claim 15, Pruchniak teaches the input device is a mouse(see figure 1).

As to claim 16, Pruchniak teaches computer input device is a keyboard(see figures 4 and 6).

As to claim 18, Pruchniak teaches the rotatable member(50) is laterally movable long a shaft extending within the opening(see figure 1; column 2, lines 8-27; column 3, lines 35-48 and column 4, lines 58-65).

As to claim 20, Pruchniak as modified teach a support member assembly pivotable with the rotatable member(50), the supporting member assembly including laterally extending arms, wherein the sensing system is configured to contact opposing lateral sides of the support member when the rotatable member(50) is moved laterally(see figure 1; column 2, lines 8-27; column 3, lines 35-48 and column 4, lines 58-65).

Response to Arguments

7. Applicant's arguments filed November 21, 2006 have been fully considered but they are not persuasive.

Applicants argue that Deruginsky et al do not teach or suggest a sensor for detecting an extension force based on the pivotal movement of the rotatable member

about the second axis for scrolling the image in a second scrolling direction perpendicular to the first scrolling direction, wherein the image is operable to scroll in the second direction responsive to the detected extension force on pages 7 and 8. The examiner disagrees with that since Deruginsky et al teach a sensor(8,9) for detecting an extension force(the force activating the sensor(8 or 9) based on the pivotal movement of the rotatable member(2) about the second axis for scrolling the image in a second scrolling direction(horizontal direction, left and right) perpendicular to the first scrolling direction(vertical direction, up and down) wherein the image is operable to scroll in the second direction responsive to the detected extension force(see figures 1-3; column 5, lines 36-68; column 6, lines 1-9 and column 8, lines 42-65).

Applicants argue that Naoyuki fails to teach or suggest scrolling an image in a second direction responsive to a detected extension force. The examiner disagrees with that since Naoyuki teach scrolling an image in a second direction(left or right) responsive to a detected extension force applied on a stick or button(see figures 2, 5A-7; abstract and paragraphs 11-14).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re*

Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to combine Deruginsky et al and Naoyuki has be found in Deruginsky's reference(see figures 1-2; column 5, lines 60-68 and column 8, lines 56-65).

Applicants argue that Deruginsky does not teach or suggest a first tensile force or a second tensile force based on the lateral pressure applied to the rotatable member, the second tensile force being greater than the first tensile force on page 9. The examiner disagrees with that since Deruginsky teaches a first tensile force(e.g. 11) or a second tensile force(e.g. 13) based on the lateral pressure applied to the rotatable member(2) and the second tensile force being greater than the first tensile force(see figure 1; column 5, lines 55-68 and column 6, lines 1-9).

Applicants argue that the combination of references Deruginsky and Naoyuki fails to teach the recited features of wherein the scrolling is at a first rate responsive to sensing the first tensile force and at a second rate responsive to sensing the second tensile force, the first rate being less than the second rate on page 10. The examiner disagrees with that(see paragraph 3 above).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a

reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The references of Deruginsky et al, Naoyuki and Takinami teach an input device for scrolling image on a display and the reasons for combining those references have been found in the references and it was within the level of ordinary skill at the time the claimed invention was made(see paragraphs 3 and 4 above).

Applicants argue that the combination of references of Deruginsky et al and Naoyuki fail to disclose the feature cited in claim 17. The examiner disagrees with that since the combination of Deruginsky et al, Naoyuki and Takinami teach feature cited in claim 17(see rejection on paragraph 4 above).

Applicants argue that Deruginsky et al do not teach scrolling an image in a left or right direction. However, Deruginsky et al teach moving an image(22) in a left or right direction which is similar to scroll image in a left or right direction(see figures 1-2; column 5, lines 60-68 and column 8, lines 57-65).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wang(US 20050264520) teach an input device having a roller for scrolling.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi Lao whose telephone number is 571-272-7671. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

January 29, 2007
Lun-yi Lao
Primary Examiner